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This index covers all technical items - papers, correspondence, reviews, etc. - that appeared in this periodical during 1995, and items from previous years that were commented upon or corrected in 1995.

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Charge carrier processes; cf. Charge injection; Space charge

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Circuit analysis; cf. Circuit transient analysis

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CML; cf. Current mode logic

CMOS analog integrated circuits; cf. BiCMOS analog integrated circuits; CMOSFET oscillators

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CMOS digital integrated circuits; cf. BiCMOS digital integrated circuits; CMOS memory integrated circuits

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CMOS integrated circuits; cf. BiCMOS integrated circuits; CMOS digital integrated circuits; CMOSFETs

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CMOS memory integrated circuits; cf. BiCMOS memory integrated circuits

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Complementary MOS; cf. CMOSFETs; CMOS integrated circuits

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Crossed field devices; cf. Magnetrons

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FET integrated circuits; cf. FETs; MODFET integrated circuits; MOS integrated circuits

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FET memory integrated circuits; cf. MOS memory integrated circuits

FET oscillators; cf. CMOSFET oscillators; MESFET oscillators; Microwave FET oscillators; MODFET oscillators

FETs
- $(Al_{0.7}Ga_{0.3})_{0.5}In_{0.5}P/In_{0.15}Ga_{0.85}$A s/GaAs HFET, characts. *Dickmann, J.*, + , *T-ED Jan 95* 2-7
- GaAs/InGaAs pseudomorphic heterostruct. FETs, inverted DM-doped, characts. *Wei-Chou Hsu*, + , *T-ED May 95* 804-809
- InAlAs/InGaAs HFETs, impact ionization and light emission. *Berthold, G.*, + , *T-ED Apr 95* 752-759
- submicrometer gate p^+-i-p^+ diamond transistor simul. *Miyata, K.*, + , *T-ED Nov 95* 2010-2014

FETs; cf. JFETs; MESFETs; Microwave FETs; Millimeter wave FETs; MISFETs; MODFETs; Power FETs

FET switches; cf. MOSFET switches

Field effect transistors; cf. FETs

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- microwave tubes, multistage depressed collectors, 3D simul. *Kumar, L.*, + , *T-ED Sep 95* 1663-1673
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- field-emission flat panel displays, beam focusing. *Kesling, W.D.*, + , *T-ED Feb 95* 340-347
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- dual-gate CMOS technol., sub-1/4-μm, in-situ doped polysilicon for nMOS/pMOS gates. *Okazaki, Y.*, + , *T-ED Sep 95* 1583-1590
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Frequency conversion; cf. Millimeter wave frequency conversion

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- AlGaAs/GaAs HBT operating at large power densities, jn. temp. meas. *Liu, W.*, + , *T-ED Feb 95* 358-360
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- AlGaAs/GaAs HEMT design, inverse modeling. *Hyungkeun Ahn*, + , *T-ED Apr 95* 598-604
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- AlGaAs/GaAs power HBT, current gain collapse and avalanche breakdown. *Liu, W.*, *T-ED Apr 95* 591-597
- AlGaAs/GaAs power HBTs, 1 W Ku-band, high power-added efficiency. *Shimura, T.*, + , *T-ED Nov 95* 1890-1896
- AlGaAs/GaAs power HBTs, self-aligned, LF noise characts. *Tutt, M.N.*, + , *T-ED Feb 95* 219-230
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- AlGaAs-InGaAs microwave power PHEMTs, fab. and perform. *Wu, C.S.*, + , *T-ED Aug 95* 1419-1424
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- GaAs electron-beam activated switches, hold-off voltage and recovery. *Kennedy, M.K.*, + , *T-ED May 95* 1009-1011
- GaAs high-power Schottky diodes, behavioral cct. simul. model. *Pendharkar, S.P.*, + , *T-ED Oct 95* 1847-1854
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Power FETs

InAlAs/n^+-InP HFET, impact ionization and electron transport. *Greenberg, D.R., + , T-ED Sep 95* 1574-1582

SiN_x/InP/$In_{0.53}Ga_{0.47}As$/InP HIGFET, characts. *Sundararaman, C.S., + , T-ED Jun 95* 1197-1199

Power FETs; cf. Insulated gate transistors; Microwave power FETs; Millimeter wave power FETs; Power MESFETs; Power MODFETs; Power MOSFETs

Power FET switches; cf. Insulated gate transistor switches

Power integrated circuits

complementary BiCMOS technol., 0.5-μm, μP-based smart power appls. *Tsui, P.G.Y., + , T-ED Mar 95* 564-570

HV power ICs, dielec. isolation bonded wafer characts. *Inoue, Y., + , T-ED Feb 95* 356-358

LIGBT, power IC, CMOS latch up. *Huang, A.Q., + , T-ED Oct 95* 1873-1874

Power MESFETs

asymmetrical double recessed power MESFETs, breakdown anal. *Gaquiere, C., + , T-ED Feb 95* 209-214

Power MODFETs

AlGaAs-InGaAs microwave power PHEMTs, fab. and perform. *Wu, C.S., + , T-ED Aug 95* 1419-1424

InAlAs/InGaAs MODFETs, off-state breakdown study. *Bahl, S.R., + , T-ED Jan 95* 15-22

InAlAs-$In_{0.7}Ga_{0.3}As$-InAlAs pseudomorphic DH-HEMT, fab., characts. *Kwon, Y., + , T-ED Jun 95* 1017-1025

Power MOSFETs

scaled vert. power DMOSFETs, static I-V charact., bipolar turn-on. *Fischer, K.J., + , T-ED Mar 95* 555-563

Power semiconductor devices; cf. Power integrated circuits; Power transistors; Thyristors

Power semiconductor switches
- GaAs HV photocond. switches, electro-optic imagery. *Falk, R.A.*, + , *T-ED Jan 95* 43-49
- light triggered triac, light sensitive struct. *Shan-Qi Zhao*, + , *T-ED Apr 95* 773-779

Power semiconductor switches; cf. Insulated gate transistor switches; Power bipolar transistor switches

Power transistors
- lateral IGBT on SOI wafer, latch-up characts. improvement. *Sumida, H.*, + , *T-ED Feb 95* 367-370

Power transistors; cf. Insulated gate transistors; Power bipolar transistors; Power FETs

Probability; cf. Monte Carlo methods

Programmable logic arrays
- metal-oxide-metal antifuses, electro-thermal model. *Guobiao Zhang*, + , *T-ED Aug 95* 1548-1558
- VLSI thin-film interconnect failure caused by high current pulses, thermal simul. *Xiang Gui*, + , *T-ED Jul 95* 1386-1388

Programmable logic devices
- self-learning neuron-MOS neural networks, wt.-updating-lin. EEPROM cell. *Kosaka, H.*, + , *T-ED Jan 95* 135-143

PROMs; cf. Read only memories

Protection/safety
- complementary-SCR ESD protect. cct. for submicron CMOS ICs. *Ming-Dou Ker*, + , *T-ED Jul 95* 1297-1304

Pulsed lasers
- laser space power beaming, PV cell pulsed laser illum. *Lowe, R.A.*, + , *T-ED Apr 95* 744-751

Pulsed lasers; cf. Mode locked lasers

Pulse inverters
- CMOS logic ccts., NMOSFET lifetime, DC stress data. *Ito, A.*, *T-ED Jun 95* 1193-1195
- MESFET, low power electronics, DCFL inverter/ring oscillator. *Peatman, W.C.B.*, + , *T-ED Sep 95* 1569-1573
- partially depleted SOI CMOS inverters, cryogenic operation. *Simoen, E.*, + , *T-ED Jun 95* 1100-1105
- SCFL inverters, anal. delay expression. *Sano, E.*, + , *T-ED Apr 95* 785-786

Pulse power systems switches
- GaAs photoconductive switches, electro-optic imaging of internal fields. *Adams, J.C.*, + , *T-ED Jun 95* 1081-1085

Punchthrough diodes
- Si heterostruct. switches with third-terminal control, dual-mode behavior. *Ali, N.T.*, + , *T-ED Oct 95* 1798-1805

Q

Quantum effect semiconductor devices; cf. MODFETs; Quantum well devices

Quantum well devices
- AlGaAs/GaAs double-barrier quantum-well RTDs, scatt. param. meas. up, 40 GHz. *Wei, T.*, + , *T-ED Jul 95* 1378-1380
- GaAs/AlGaAs inverted MODFET, charge control/I-V model. *Anwar, A.F.M.*, + , *T-ED Apr 95* 586-590

Quantum wells
- Si MOSFET, energy band diag. *Ying Fu*, + , *T-ED Aug 95* 1522-1527

R

Radiation detectors; cf. Infrared detectors; Photodetectors

Radiation effects; cf. Integrated circuit radiation effects; Laser radiation effects; Semiconductor device radiation effects; X-ray effects

Random access memories; cf. DRAM chips; SRAM chips

Random noise
- AlGaAs/GaAs power HBTs, self-aligned, LF noise characts. *Tutt, M.N.*, + , *T-ED Feb 95* 219-230
- Hg$_{1-x}$Cd$_x$Te MIS IR detectors, 1/f noise, temp. depend. *Wenmu He*, + , *T-ED Jan 95* 160-165
- polysilicon emitter bipolar transistors, LF 1/f noise. *Markus, H.A.W.*, + , *T-ED Apr 95* 720-727
- polysilicon emitter BJT, LF noise sources, hot-electron-induced degrad. *Mounib, A.*, + , *T-ED Sep 95* 1647-1652
- SI materials, 1/f noise. *Forbes, L.*, *T-ED Oct 95* 1866-1868

Rapid thermal processing
- deep submicrometer MOSFETs in-situ rapid thermal gate dielec. reliab. *Zhang, K.X.*, + , *T-ED Dec 95* 2181-2188
- fully radiative current path struct. for sub-0.1 µm emitter transistor. *Onai, T.*, + , *T-ED Jan 95* 23-30
- MOSFETs, rapid thermal NO-nitrided SiO$_2$ gate dielec., props. and reliab. *Bhat, M.*, + , *T-ED May 95* 907-914
- NiSi self-aligned technol. for high-speed deep submicrometer logic CMOS ULSI. *Morimoto, T.*, + , *T-ED May 95* 915-922
- n-p-n transistors, thin base, lateral ion implant., enhanced diffusion. *Denorme, S.*, + , *T-ED Mar 95* 523-527
- Si bipolar transistors, in-situ/rapid vap.-phase doping. *Uchino, T.*, + , *T-ED Mar 95* 406-412
- SiO$_2$ and ONO gate dielec., time-depend. dielec. breakdown. *Chi-Hung Lin*, + , *T-ED Jul 95* 1329-1332
- stacked nitride-oxide gate n-/p-MISFETs, hot-carrier reliab. *Momose, H.S.*, + , *T-ED Apr 95* 704-712
- TiSi$_2$/Si BiCMOS technol., nonohmic contact resist., NFETs/PFETs/diffused resistors/NPNs. *Hook, T.B.*, + , *T-ED Apr 95* 697-703

Rare earth materials/devices; cf. Cerium materials/devices; Erbium materials/devices

Read only memories
- 3D PENCIL flash EPROM cell/memory array perform. *Pein, H.*, + , *T-ED Nov 95* 1982-1991
- CMOS embedded nonvolatile memory, proc. integrat., scaled ONO interpoly dielec. *Shum, D.P.*, + , *T-ED Jul 95* 1376-1377
- FLOTOX EEPROM cells, intrinsic retention characts., model. *Papadas, C.*, + , *T-ED Apr 95* 678-682
- self-learning neuron-MOS neural networks, wt.-updating-lin. EEPROM cell. *Kosaka, H.*, + , *T-ED Jan 95* 135-143
- Si flash EPROM device reliab., erase source bias effects. *San, K.T.*, + , *T-ED Jan 95* 150-159
- source-side injection flash EEPROM devices optim., model. *Van Houdt, J.F.*, + , *T-ED Jul 95* 1314-1320
- source side injection flash EEPROMs, write/erase degrad. *Wellekens, D.*, + , *T-ED Nov 95* 1992-1998

Receivers; cf. Optical receivers; TV receivers

Recording; cf. Memories

Rectifiers
- GaAs high-power Schottky diodes, behavioral cct. simul. model. *Pendharkar, S.P.*, + , *T-ED Oct 95* 1847-1854

Recurrent neural networks
- self-learning neuron-MOS neural networks, wt.-updating-lin. EEPROM cell. *Kosaka, H.*, + , *T-ED Jan 95* 135-143

Reflection coefficient measurement; cf. Scattering parameters measurement

Reliability; cf. Failure analysis; Semiconductor device reliability

Reliability estimation; cf. Life estimation

Reliability modeling
- FLOTOX EEPROM cells, intrinsic retention characts., model. *Papadas, C.*, + , *T-ED Apr 95* 678-682

Reliability testing
- deep-submicron PMOSFETs, hot-carrier degrad. mechanisms. *Woltjer, R.*, + , *T-ED Jan 95* 109-115
- GTO thyristors under snubberless operation, turn-off limitations and device failure. *Bleichner, H.*, + , *T-ED Jan 95* 178-187
- Si flash EPROM device reliab., erase source bias effects. *San, K.T.*, + , *T-ED Jan 95* 150-159
- submicrometer LDD NMOSFET lifetime prediction, two-stage hot-carrier degrad. *Vei-Han Chan*, + , *T-ED May 95* 957-962
- surface channel P-MOSFETs, gate oxide thickness hot carrier effects. *Doyle, B.S.*, + , *T-ED Jan 95* 116-122

Resistance
- MOST meas., parasitic source and drain resist. asymm. *Raychaudhuri, A.*, + , *T-ED Jul 95* 1388-1390
- nonlin. GaAs MESFET device models, fast/accurate parasitic resist. *Debie, P.*, + , *T-ED Dec 95* 2239-2242
- polysilicon resistors, pulse current trimming, LSI resistor tuning after fab. *Feldbaumer, D.W.*, + , *T-ED Apr 95* 689-696

Resistance; cf. Contact resistance

Resistance measurement
- emitter resist. extraction from floating collector meas. *Morizuka, K.*, + , *T-ED Feb 95* 266-273

Resistivity; cf. Conductivity

Resistors
- polysilicon resistors, pulse current trimming, LSI resistor tuning after fab. *Feldbaumer, D.W.*, + , *T-ED Apr 95* 689-696

Resists
- n-MOSFET, 40 nm gate length, ultrashallow source/drain jns. *Ono, M.*, + , *T-ED Oct 95* 1822-1830

Resonant tunneling devices
- AlGaAs/GaAs double-barrier quantum-well RTDs, scatt. param. meas. up, 40 GHz. *Wei, T.*, + , *T-ED Jul 95* 1378-1380
- metal(CoSi$_2$)-insulator(CaF$_2$ resonant tunneling transistors, theoretical./meas. characts., parasitic elements influence. *Suemasu, T.*, + , *T-ED Dec 95* 2203-2210

- MOBILE logic ccts. implemented, reson. tunneling transistors. *Maezawa, K., + , T-ED May 95* 1005-1007
- multipeak RTD model for nine-state RTD memory cct. simul. *Chih Yuan Huang, + , T-ED Sep 95* 1705-1707

Ridge waveguides
- slow wave cyclotron interact. in folded rect. waveguide, theory. *Ganguly, A.K., + , T-ED Feb 95* 348-355

ROM; cf. Read only memories

S

Safety; cf. Protection/safety

Scattering matrices; cf. Transmission line matrix methods

Scattering parameters
- InP-GaInAs HBT small-sig. equiv. cct., extraction. *Spiegel, S.J., + , T-ED Jun 95* 1059-1064

Scattering parameters measurement
- AlGaAs/GaAs double-barrier quantum-well RTDs, scatt. param. meas. up, 40 GHz. *Wei, T., + , T-ED Jul 95* 1378-1380
- universal de-embedding procedure for on-wafer GHz probing. *Weng, J., T-ED Sep 95* 1703-1705

Scene analysis; cf. Image analysis

Schottky diodes
- GaAs high-power Schottky diodes, behavioral cct. simul. model. *Pendharkar, S.P., + , T-ED Oct 95* 1847-1854
- $In_{0.52}Al_{0.48}As/In_{0.53}Ga_{0.47}As$ heterostruct. FET, Schottky-barrier-gate diodes characts. *Sung, R., + , T-ED Jan 95* 188-190
- PtSi Schottky-barrier IR-CCD image sens., wiring technol. *Tohyama, S., + , T-ED Aug 95* 1433-1440
- PtSi/Si doping-spike Schottky IR detectors, extended cutoff wavelengths. *Lin, T.L., + , T-ED Jul 95* 1216-1220
- Si-$CrSi_2$($MoSi_2$) Schottky barrier contacts, modeling, I-V characts. simul. *Donoval, D., + , T-ED Jun 95* 1187-1189
- WSiN-GaAs SAG MESFETs, Schottky diode charactn. *Alavi, K.T., T-ED Jul 95* 1205-1209

Schottky FETs; cf. MESFETs

Semiconductor defects
- n-p-n transistors, thin base, lateral ion implant., enhanced diffusion. *Denorme, S., + , T-ED Mar 95* 523-527
- polysilicon TFT, above-threshold characts., model. *Horng Nan Chern, + , T-ED Jul 95* 1240-1246

Semiconductor device bonding; cf. Integrated circuit bonding

Semiconductor device breakdown
- accumulation-mode SIMOX MOSFETs, Si film thickness effects. *Faynot, O., + , T-ED Apr 95* 713-719
- AC TFEL devices, anal. cct. model. *Ylilammi, M., T-ED Jul 95* 1227-1232
- AlGaAs/GaAs power HBT, current gain collapse and avalanche breakdown. *Liu, W., T-ED Apr 95* 591-597
- AlGaAs-InGaAs microwave power PHEMTs, fab. and perform. *Wu, C.S., + , T-ED Aug 95* 1419-1424
- $(Al_{0.7}Ga_{0.3})_{0.5}In_{0.5}P/In_{0.15}Ga_{0.85}A$ s/GaAs HFET, characts. *Dickmann, J., + , T-ED Jan 95* 2-7
- asymmetrical double recessed power MESFETs, breakdown anal. *Gaquiere, C., + , T-ED Feb 95* 209-214
- BiCMOS, h_{fe} degrad. in bipolar output drivers, reduction, cct. tech. *Kizilyalli, I.C., + , T-ED Mar 95* 573-574
- GaAs/InGaAs pseudomorphic heterostruct. FETs, inverted DM-doped, characts. *Wei-Chou Hsu, + , T-ED May 95* 804-809
- HEMT, quasi-2D model for microwave CAD appls. *Drury, R., + , T-ED Jun 95* 1026-1032
- HV bipolar SOI transistor, fully depleted collector. *Arnborg, T., + , T-ED Jan 95* 172-177
- hybrid lateral bipolar operation of DMOS transistors, high current gain. *Olsson, J., + , T-ED Sep 95* 1628-1635
- impact ionization current, nonlocal model for HBTs/BJTs. *Hong, G.-B., + , T-ED Jun 95* 1166-1173
- InAlAs/InGaAs MODFETs, off-state breakdown study. *Bahl, S.R., + , T-ED Jan 95* 15-22
- InAlAs/n^+-InP HFET, impact ionization and electron transport. *Greenberg, D.R., + , T-ED Sep 95* 1574-1582
- InGaAs-based abrupt emitter HBTs, DC charactn. *Kyounghoon Yang, + , T-ED Jun 95* 1047-1058
- InP/InGaAs APD, SAGCM, breakdown voltages, temp. depend. charact. *Ma, C.L.F., + , T-ED May 95* 810-818
- InSb MOSFET, photo-enhanced CVD, differing channel lengths, characts. *Biing-Der Liu, + , T-ED May 95* 795-803
- MOS struct. with finite field plate, 2D field distrib. calc. *Chung, S.K., + , T-ED Jan 95* 192-194
- physically based MOS transistor avalanche breakdown model. *Wong, H., T-ED Dec 95* 2197-2202
- polysilicon TFTs, hydrogenation by ion implant. *Min Cao, + , T-ED Jun 95* 1134-1140
- Si-dielec. high field systs., bulk breakdown. *Gradinaru, G., + , T-ED Jun 95* 1156-1165
- SiO_2 and ONO gate dielec., time-depend. dielec. breakdown. *Chi-Hung Lin, + , T-ED Jul 95* 1329-1332
- SiO_2 thin oxide wearout and breakdown, high field. *Dumin, D.J., + , T-ED Apr 95* 760-772
- submicron SOI MOSFET, self-heating, scaling constraints. *Dallmann, D.A., + , T-ED Mar 95* 489-496
- ultra-thin SOI MOSFETs, narrow-bandgap-source struct. *Jai-Hoon Sim, + , T-ED Aug 95* 1495-1502

Semiconductor device doping
- AlGaAs/GaAs HEMT design, inverse modeling. *Hyungkeun Ahn, + , T-ED Apr 95* 598-604
- $Al_{0.3}Ga_{0.7}As/In_xGa_{1-x}As$ doped-channel FETs. *Yi-Jen Chan, + , T-ED Oct 95* 1745-1749
- arbitrary lateral diffusion profiles. *Perry, R.J., + , T-ED Dec 95* 2226-2230
- BiCMOS technol., polysilicon source/drain ion implant. effects/prevention. *Hook, T.B., + , T-ED Mar 95* 571-572
- channel profile engng. for NMOSFETs, 100 nm channel lengths. *Jacobs, J.B., + , T-ED May 95* 870-875
- deep-submicron MOSFET scaling study. *Hang Hu, + , T-ED Apr 95* 669-677
- diamond:B films, metallization effect on ohmic contact resist. *Werner, M., + , T-ED Jul 95* 1344-1351
- dual-gate CMOS technol., sub-1/4-µm, in-situ doped polysilicon for nMOS/pMOS gates. *Okazaki, Y., + , T-ED Sep 95* 1583-1590
- GaAs/InGaAs pseudomorphic heterostruct. FETs, inverted DM-doped, characts. *Wei-Chou Hsu, + , T-ED May 95* 804-809
- GaInAs PIN photodiode, LPE growth, Er gettering. *Wen-Jeng Ho, + , T-ED Apr 95* 639-645
- InAlAs/n^+-InP HFET, impact ionization and electron transport. *Greenberg, D.R., + , T-ED Sep 95* 1574-1582
- n-MOSFET, nonuniformly doped substr., threshold voltage model. *Jiin-Jang Maa, + , T-ED Aug 95* 1487-1494
- N-MOSFETs under high substr. impurity conc., hot carrier effects. *Ono, M., + , T-ED Aug 95* 1510-1521
- P-I-N-drain MOSFET struct., hot carrier suppression, simul./fab./characts. *Le-Tien Jung, + , T-ED Sep 95* 1591-1599
- poly-Si contacted p^+©n shallow junction, Si-B layer low-temp. growth as solid diffusion source. *Lei, T.F., + , T-ED Dec 95* 2104-2110
- polysilicon emitter transistors, phosphorus doped, band struct. *Kondo, M., + , T-ED Mar 95* 419-426
- shallow and opaque heavily doped emitters for bipolar devices, model/optim. *Rinaldi, N., T-ED Jun 95* 1126-1133
- Si bipolar transistors, in-situ/rapid vap.-phase doping. *Uchino, T., + , T-ED Mar 95* 406-412
- Si, polycryst., dopant diffusion, model. *Puchner, H., + , T-ED Oct 95* 1750-1755

Semiconductor device doping; cf. Semiconductor device ion implantation

Semiconductor device fabrication
- a-Si:H TFT planarization, liquid-phase SiO_2 deposition. *Chen, M.-S., + , T-ED Nov 95* 1918-1923
- bipolar transistor technol. *Nakamura, T., + , T-ED Mar 95* 390-398
- double polysilicon layer structs., plasma etching effects. *Yuan Xiong Li, + , T-ED Jan 95* 64-69
- dry etch single gate recess proc. for microwave power PHEMT. *Wu, C.S., + , T-ED Aug 95* 1419-1424
- ECL bipolar transistor, high-speed, low parasitic archit. *Iinuma, T., + , T-ED Mar 95* 399-405
- fully depleted SOI n-MOSFETs, parasitic bipolar effects/off-state leakage suppression using Ge-implantation. *Wei, H.-F., + , T-ED Dec 95* 2096-2103
- IGBTs, DMOS and trench technols. comparison. *Udrea, F., + , T-ED Jul 95* 1356-1366
- n-MOSFET, 40 nm gate length, ultrashallow source/drain jns. *Ono, M., + , T-ED Oct 95* 1822-1830
- P-I-N-drain MOSFET struct., hot carrier suppression, simul./fab./characts. *Le-Tien Jung, + , T-ED Sep 95* 1591-1599
- poly-buffer LOCOS proc., Gate oxide thinning at active device/field oxide boundary. *Kamgar, A., + , T-ED Dec 95* 2089-2095
- polysilicon films and TFTs, passiv. by H and O plasma treatments. *Nickel, N.H., + , T-ED Aug 95* 1559-1560
- Si bipolar device struct., digital appls. *Warnock, J.D., T-ED Mar 95* 377-389

Semiconductor device fabrication; cf. Integrated circuit fabrication; Photovoltaic cell fabrication; Semiconductor device doping; Semiconductor device metallization

Semiconductor device ion implantation
- a-Si:P electrode for DRAM capacitor, hemispherical grained Si form. *Watanabe, H., + , T-ED Jul 95* 1247-1254

BF_2-implanted p-type gate MOSFET, B penetration suppression. *Chih-Yung Lin, + , T-ED Aug 95* 1503-1509
GaAs MESFET fabricated by internal interconnection tech. *Han Dejun, + , T-ED Feb 95* 370-372
nMOSFET I-V/C-V characts., source/drain implant effects. *Cheng-Liang Huang, + , T-ED Jul 95* 1255-1261
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polysilicon TFTs, reliab. improve. by F implant., gate poly-Si. *Maegawa, S., + , T-ED Jun 95* 1106-1112
self-aligned pocket implant. MOSFETs, low supply voltage operation. *Hori, A., + , T-ED Jan 95* 78-86
top-gate TFTs fab. on Ni-implanted polysilicon films, characts. *Yang, C.K., + , T-ED Dec 95* 2163-2169

Semiconductor device ion implantation; cf. Integrated circuit ion implantation

Semiconductor device manufacture; cf. Semiconductor device fabrication

Semiconductor device measurements
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bipolar transistor base-to-emitter intrinsic and peripheral capacitances, meas. method. *Wang, C.H., T-ED Nov 95* 1962-1967
bipolar transistor params., impact-ionization-induced base current reversal. *Vendrame, L., + , T-ED Sep 95* 1636-1646
CCD trap characts. meas. using X-rays. *Gendreau, K.C., + , T-ED Nov 95* 1912-1917
CMOS transistors in freeze-out regime, quasi-static behavior. *Divakaruni, R., + , T-ED Jan 95* 87-93
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gated-diode config. in MOSFETs, hot-carrier degrad. charactn. tool. *Speckbacher, P., + , T-ED Jul 95* 1287-1296
HgCdTe photodiodes, lateral PV effect, LBIC. *Fynn, K.A., + , T-ED Oct 95* 1775-1782
HV bipolar SOI transistor, fully depleted collector. *Arnborg, T., + , T-ED Jan 95* 172-177
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InAlAs/InGaAs HFETs, impact ionization and light emission. *Berthold, G., + , T-ED Apr 95* 752-759
InP/InGaAs APDS, separate absorpt./grading/charge/multiplication, device params. extraction. *Ma, C.L.F., + , T-ED Dec 95* 2070-2079
InSb MOSFET, photo-enhanced CVD, differing channel lengths, characts. *Biing-Der Liu, + , T-ED May 95* 795-803
$In_{0.52}Al_{0.48}As/In_{0.53}Ga_{0.47}As$ heterostruct. FET, Schottky-barrier-gate diodes characts. *Sung, R., + , T-ED Jan 95* 188-190
large area segmented thyristor, forward voltage drop/local carrier lifetime correl. *Linnros, J., + , T-ED Jun 95* 1174-1179
MOSFET params. charactn., low longit. field. *Selmi, L., + , T-ED Feb 95* 315-320
MOST meas., parasitic source and drain resist. asymm. *Raychaudhuri, A., + , T-ED Jul 95* 1388-1390
NPN BJTs, irrad., excess collector current, oxide-trapped-charge-induced emitter. *Wei, A., + , T-ED May 95* 923-927
off-state n-MOSFETs, interface trap-induced drain leakage current. *Tse-En Chang, + , T-ED Apr 95* 738-743
PMOSFET hot carrier degrad., meas. and simul. by gate capacitance. *Ling, C.H., + , T-ED May 95* 928-934
polycryst. silicon TFT's, neg. gate bias instabil. *Young, N.D., + , T-ED Sep 95* 1623-1627
polysilicon TFTs, undoped, LPCVD, leakage current. *Dimitriadis, C.A., + , T-ED May 95* 950-956
p-MOSFETs, lifetime prediction methods, std. and charge-pumping lifetime criteria. *Bravaix, A., + , T-ED Jan 95* 101-108
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Si, oxidized, oxide and interface traps, DC meas. *Neugroschel, A., + , T-ED Sep 95* 1657-1662
Si_3N_4-SiO_2-Si, data storage, lifetime and CNR meas. *Terris, B.D., + , T-ED May 95* 944-949
SOI MOSFETs, LF noise spectral dens. and static device params. *Simoen, E., + , T-ED Aug 95* 1467-1472
thin-base diodes/transistors, minority carrier transport, flux-based study. *Tanaka, S., + , T-ED Oct 95* 1806-1815
vertical bipolar transistors, direct base width modulation obs. *Joardar, K., T-ED Dec 95* 2189-2196
WSiN-GaAs SAG MESFETs, Schottky diode charactn. *Alavi, K.T., T-ED Jul 95* 1205-1209

Semiconductor device measurements; cf. Integrated circuit measurements; Photovoltaic cell measurements

Semiconductor device mechanical factors
InAlAs-InGaAs strained HEMT, I-V characts., charge control model. *Guan, L., + , T-ED Apr 95* 612-617
MOSFET, const.-field scaling theory. *Jiin-Jang Maa, + , T-ED Jul 95* 1262-1268

Semiconductor device metallization
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Semiconductor diodes; cf. Avalanche diodes; Light-emitting diodes; Microwave diodes; Millimeter wave diodes; Photodiodes; p-i-n diodes; Punchthrough diodes; Schottky diodes; Tunnel diodes; Varactors

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TFT SRAM cell technol., phase-shift litho. *Yamanaka, T., + , T-ED Jul 95* 1305-1313

Stability; cf. Circuit stability

Storage; cf. Memories

Strain
polysilicon emitter transistors, phosphorus doped, band deform. *Kondo, M., + , T-ED Mar 95* 427-435

Stress
InAlAs-InGaAs strained HEMT, I-V characts., charge control model. *Guan, L., + , T-ED Apr 95* 612-617
polysilicon emitter transistors, phosphorus doped, band deform. *Kondo, M., + , T-ED Mar 95* 427-435

Surface acoustic wave signal processing

GaAs/AlGaAs pn^-np heterojunction ACT device, charge confine. *Smith, A.W.*, + , *T-ED May 95* 977-990

Surfaces

MODERN dry etching topography simulator, new surface react. model. *Harafuji, K.*, + , *T-ED Nov 95* 1903-1911

Switches/switchgear

two-stage-pseudospark switches, high-current appls. *Gortler, A.*, + , *T-ED Nov 95* 2021-2027

Switches/switchgear; cf. Interrupters; Light triggered switches; MMIC switches; Pulse power system switches; Semiconductor switches; UHF switches

T

Technology forecasting

Si bipolar device struct., digital appls. *Warnock, J.D.*, *T-ED Mar 95* 377-389

Temperature measurement

AlGaAs/GaAs HBT operating at large power densities, jn. temp. meas. *Liu, W.*, + , *T-ED Feb 95* 358-360

Tessellation automata; cf. Cellular automata

Testing; cf. Logic circuit testing; Memory testing; Reliability testing; Semiconductor device testing

Thermal factors

metal-oxide-metal antifuses, electro-thermal model. *Guobiao Zhang*, + , *T-ED Aug 95* 1548-1558

Thermal factors; cf. Cryogenic electronics; Heat treatment; Integrated circuit thermal factors; Semiconductor device thermal factors; Thermoresistivity

Thermal image sensors; cf. Infrared image sensors

Thermal variables measurement; cf. Temperature measurement

Thermoresistivity

two-finger HBTs, thermal coupling. *Liu, W.*, *T-ED Jun 95* 1033-1038

Thin film capacitors

Ta_2O_5 dielec. film capacitors, stacked DRAM cells. *Madan, S.K.*, *T-ED Oct 95* 1871-1872

Thin film devices

Mo thin-film-field-emission cathode devices, microwave triode amps. *Phillips, P.M.*, + , *T-ED Sep 95* 1674-1680

Thin film transistors

a-Si:H TFT planarization, liquid-phase SiO_2 deposition. *Chen, M.-S.*, + , *T-ED Nov 95* 1918-1923

a-Si TFTs and phototransistors, trap distrib. model for simul. *Gudem, P.S.*, + , *T-ED Jul 95* 1333-1339

polycryst. silicon TFT's, neg. gate bias instabil. *Young, N.D.*, + , *T-ED Sep 95* 1623-1627

polysilicon films and TFTs, passiv. by H and O plasma treatments. *Nickel, N.H.*, + , *T-ED Aug 95* 1559-1560

polysilicon TFT, above-threshold characts., model. *Horng Nan Chern*, + , *T-ED Jul 95* 1240-1246

polysilicon TFTs, fab., pulsed laser annealing and plasma CVD. *Kohno, A.*, + , *T-ED Feb 95* 251-257

polysilicon TFTs, hydrogenation by ion implant. *Min Cao*, + , *T-ED Jun 95* 1134-1140

polysilicon TFTs, reliab. improve. by F implant., gate poly-Si. *Maegawa, S.*, + , *T-ED Jun 95* 1106-1112

polysilicon TFTs, self-induced LDD devices, SiO_2 gate-insulator, passiv. layer. *Ching-Fa Yeh*, + , *T-ED Feb 95* 307-314

polysilicon TFTs, undoped, LPCVD, leakage current. *Dimitriadis, C.A.*, + , *T-ED May 95* 950-956

series-connected TFTs, leakage current modeling. *Sturm, J.C.*, + , *T-ED Aug 95* 1561-1563

SRAM cell technol., phase-shift lithog. *Yamanaka, T.*, + , *T-ED Jul 95* 1305-1313

top-gate fab. on Ni-implanted polysilicon films, characts. *Yang, C.K.*, + , *T-ED Dec 95* 2163-2169

Threshold logic functions

MOBILE logic ccts. implemented, reson. tunneling transistors. *Maezawa, K.*, + , *T-ED May 95* 1005-1007

Thyristors

emitter switched thyristors, forward biased SOA. *Iwamuro, N.*, + , *T-ED Feb 95* 334-339

GTO thyristors under snubberless operation, turn-off limitations and device failure. *Bleichner, H.*, + , *T-ED Jan 95* 178-187

large area segmented thyristor, forward voltage drop/local carrier lifetime correl. *Linnros, J.*, + , *T-ED Jun 95* 1174-1179

nonplanar GTO thyristor, 2D thermal runaway simul. *Brand, H.*, + , *T-ED Dec 95* 2137-2146

Thyristors; cf. Photothyristors

Time delay; cf. Delay effects

Time difference of arrival estimation; cf. Delay estimation

Time of arrival estimation; cf. Delay estimation

Tin materials/devices

n^+-SnO_2/a-SiC:H/metal thin-film photodiodes, voltage-controlled spectral sensitivity. *Rossi, M.C.*, + , *T-ED Dec 95* 2062-2069

Titanium materials/devices

$TiSi_2$/Si BiCMOS technol., nonohmic contact resist., NFETs/PFETs/diffused resistors/NPNs. *Hook, T.B.*, + , *T-ED Apr 95* 697-703

Topography; cf. Surfaces

Tracking loops; cf. Phase locked loops

Transfer functions

SCFL inverters, anal. delay expression. *Sano, E.*, + , *T-ED Apr 95* 785-786

Transient analysis

InAlAs/InGaAs/InP HEMTs, sinusoidal/transient excitation, kink effect. *Kruppa, W.*, + , *T-ED Oct 95* 1717-1723

microwave HBTs, transient thermal simul., TLM method appl. *Webb, P.W.*, + , *T-ED Apr 95* 624-631

optoelectronic integrated devices, transient behavior. *Zhu, Y.*, + , *T-ED Apr 95* 646-651

Transient analysis; cf. Circuit transient analysis

Transistors

vertical Φ-shape transistor cell impact, 1-GB DRAM and beyond. *Maeda, S.*, + , *T-ED Dec 95* 2017-2124

Transistors; cf. Bipolar transistors; FETs; Microwave transistors; Phototransistors; Power transistors; Thin film transistors; Tunnel transistors

Transistor-transistor logic

submicron BiCMOS memories, high-speed technols. *Takada, M.*, + , *T-ED Mar 95* 497-505

Transition metal materials/devices; cf. Chromium materials/devices; Manganese materials/devices; Molybdenum materials/devices; Nickel materials/devices; Platinum materials/devices; Titanium materials/devices; Tungsten materials/devices

Transmission coefficient measurement; cf. Scattering parameters measurement

Transmission line matrix methods

microwave HBTs, transient thermal simul., TLM method appl. *Webb, P.W.*, + , *T-ED Apr 95* 624-631

Transmission line theory

alloyed ohmic contacts, trilayer transm. line model. *Reeves, G.K.*, + , *T-ED Aug 95* 1536-1547

Transverse wave tubes; cf. Traveling wave tubes

Traveling wave amplifiers

gyrotwystron, wideband three-stage mixed geom. amp. *Malouf, P.M.*, + , *T-ED Sep 95* 1681-1685

Traveling wave tubes

coupled cavity, cold test params./RF output power simul. *Wilson, J.D.*, + , *T-ED Nov 95* 2015-2020

TTL; cf. Transistor-transistor logic

Tunable circuits/devices

a-Si/SiC heterostruct. based tunable photodetectors. *de Cesare, G.*, + , *T-ED May 95* 835-840

polysilicon resistors, pulse current trimming, LSI resistor tuning after fab. *Feldbaumer, D.W.*, + , *T-ED Apr 95* 689-696

Tunable oscillators

$In_{0.53}Ga_{0.47}As/In_{0.52}Al_{0.48}As$ MODFET MMIC oscillators, opt. tuning. *Yang, D.*, + , *T-ED Jan 95* 31-37

Tungsten materials/devices

HDTV CCD image sens., 1 in, 2 Mpixel, W photo-shield. *Morimoto, M.*, + , *T-ED Jan 95* 50-57

WSiN-GaAs SAG MESFETs, Schottky diode charactn. *Alavi, K.T.*, *T-ED Jul 95* 1205-1209

Tunnel devices/effects

a-C/c-Si n-p heterojunction diodes, (photo)electronic props. *Veerasamy, V.S.*, + , *T-ED Apr 95* 577-585

gated-diode config. in MOSFETs, hot-carrier degrad. charactn. tool. *Speckbacher, P.*, + , *T-ED Jul 95* 1287-1296

HBT SPICE model for large-sig. appls. *Feng, J.J.X.*, + , *T-ED Jan 95* 8-14

heterostruct. barrier varactor, time-depend. electron transport. *Jones, J.R.*, + , *T-ED Aug 95* 1393-1403

$Hg_{1-x}Cd_xTe$ MIS IR detectors, 1/f noise, temp. depend. *Wenmu He*, + , *T-ED Jan 95* 160-165

InGaAs-based abrupt emitter HBTs, DC charactn. *Kyounghoon Yang*, + , *T-ED Jun 95* 1047-1058

near-interface oxide traps obs./charactn., C-V techs. *Cohen, N.L.*, + , *T-ED Nov 95* 2004-2009

off-state n-MOSFETs, interface trap-induced drain leakage current. *Tse-En Chang*, + , *T-ED Apr 95* 738-743

pMOSFET, sub-μm, hot carrier degrad., F-N injection. *Zhang, J.F.*, + , *T-ED Jul 95* 1269-1276

Si flash EPROM device reliab., erase source bias effects. *San, K.T.*, + , *T-ED Jan 95* 150-159

ZnS:Mn ACTFEL display, insulator-semicond. interface, electron ejection. *Bhaskaran, S.*, + , *T-ED Oct 95* 1756-1762

Tunnel devices/effects; cf. Tunnel diodes; Tunnel transistors

Tunnel diodes

AlGaAs/GaAs double-barrier quantum-well RTDs, scatt. param. meas. up, 40 GHz. *Wei, T.*, + , *T-ED Jul 95* 1378-1380

multipeak RTD model for nine-state RTD memory cct. simul. *Chih Yuan Huang*, + , *T-ED Sep 95* 1705-1707

Tunnel transistors

metal($CoSi_2$)-insulator(CaF_2 resonant tunneling transistors, theoretical./meas. characts., parasitic elements influence. *Suemasu, T.*, + , *T-ED Dec 95* 2203-2210

MIS emitter Auger transistor, anal. model. *Vexler, M.I.*, *T-ED Apr 95* 656-661

off-state n-MOSFETs, interface trap-induced drain leakage current. *Tse-En Chang*, + , *T-ED Apr 95* 738-743

TV; cf. HDTV

TV cameras

HDTV CCD image sens., 1 in, 2 Mpixel, W photo-shield. *Morimoto, M.*, + , *T-ED Jan 95* 50-57

TV cameras; cf. TV image sensors

TV displays

DC plasma display for HDTV, 40 in diagonal. *Yamamoto, T.*, + , *T-ED May 95* 847-855

TV equipment; cf. TV cameras; TV displays; TV image sensors; TV receivers

TV image sensors

Si-SiO_2 color FT-CCD imager with low dark current, surface pinning, S-VHS compatible. *Bosiers, J.T.*, + , *T-ED Aug 95* 1449-1460

TV picture tubes; cf. TV displays

TV receivers

DC plasma display for HDTV, 40 in diagonal. *Yamamoto, T.*, + , *T-ED May 95* 847-855

Two-port circuits

universal de-embedding procedure for on-wafer GHz probing. *Weng, J.*, *T-ED Sep 95* 1703-1705

TWT; cf. Traveling wave tubes

U

UHF amplifiers

Si npn bipolar proc., NMOS transistors for RF and microwave appls. *O, K.*, + , *T-ED Oct 95* 1831-1840

UHF bipolar integrated circuits

Si npn bipolar proc., NMOS transistors for RF and microwave appls. *O, K.*, + , *T-ED Oct 95* 1831-1840

UHF circuits; cf. UHF amplifiers

UHF devices; cf. UHF switches

UHF integrated circuits; cf. UHF bipolar integrated circuits

UHF switches

Si npn bipolar proc., NMOS transistors for RF and microwave appls. *O, K.*, + , *T-ED Oct 95* 1831-1840

Ultra-high-speed integrated circuits

LSIs, self-aligned complementary bipolar technol. *Onai, T.*, + , *T-ED Mar 95* 413-418

Ultra-large-scale integration

complementary-SCR ESD protect. cct. for submicron CMOS ICs. *Ming-Dou Ker*, + , *T-ED Jul 95* 1297-1304

electromigration-induced integrat. limits, model. *You-Wen Yi*, + , *T-ED Apr 95* 683-688

NiSi self-aligned technol. for high-speed deep submicrometer logic CMOS ULSI. *Morimoto, T.*, + , *T-ED May 95* 915-922

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Vacuum microelectronics

field-emission flat panel displays, beam focusing. *Kesling, W.D.*, + , *T-ED Feb 95* 340-347

Mo thin-film-field-emission cathode devices, microwave triode amps. *Phillips, P.M.*, + , *T-ED Sep 95* 1674-1680

Vapor deposition

a-C/c-Si n-p heterojunction diodes, (photo)electronic props. *Veerasamy, V.S.*, + , *T-ED Apr 95* 577-585

Vapor deposition; cf. CVD

Varactors

heterostruct. barrier varactor, electron transport study. *Jones, J.R.*, + , *T-ED Jun 95* 1070-1080

heterostruct. barrier varactor, time-depend. electron transport. *Jones, J.R.*, + , *T-ED Aug 95* 1393-1403

Variational methods

InAlAs-InGaAs strained HEMT, I-V characts., charge control model. *Guan, L.*, + , *T-ED Apr 95* 612-617

mag. deflection systs., variational aberration theory. *Jiye Ximen*, + , *T-ED Oct 95* 1855-1862

Very-large-scale integration

BiCMOS dyn. logic cct., LV deep submicrometer VLSI, transient model. *Chiang, C.S.*, + , *T-ED Mar 95* 549-554

CMOS VLSI ccts., temp. depend. hole/electron mobility models. *Min, K.-S.*, + , *T-ED Nov 95* 1956-1961

complementary BiCMOS technol., 0.5-μm, μP-based smart power appls. *Tsui, P.G.Y.*, + , *T-ED Mar 95* 564-570

complementary-SCR ESD protect. cct. for submicron CMOS ICs. *Ming-Dou Ker*, + , *T-ED Jul 95* 1297-1304

deep-submicrometer fully depleted SOI LV CMOS technol., phys. subthreshold MOSFET modeling. *Ping Chin Yeh*, + , *T-ED Sep 95* 1605-1613

dual-gate CMOS technol., sub-1/4-μm, in-situ doped polysilicon for nMOS/pMOS gates. *Okazaki, Y.*, + , *T-ED Sep 95* 1583-1590

P^+-polysilicon gated FET devices, bias temp. reliab. *Abadeer, W.W.*, + , *T-ED Feb 95* 360-362

Si based optoelectronic syst. integrat., CMOS VLSI. *Hilleringmann, U.*, + , *T-ED May 95* 841-846

Si hemispherical-grained storage electrodes for high-dens. DRAMs. *Watanabe, H.*, + , *T-ED Feb 95* 295-300

SOI CMOS output buffers, ESD reliab. and protection schemes. *Mansun Chan*, + , *T-ED Oct 95* 1816-1821

thin-film interconnect failure, high current pulses, thermal simul. *Xiang Gui*, + , *T-ED Jul 95* 1386-1388

Voltage breakdown; cf. Dielectric breakdown

W

Waveguides; cf. Ridge waveguides

X

X-ray effects

CCD trap characts. meas. using X-rays. *Gendreau, K.C.*, + , *T-ED Nov 95* 1912-1917

SiO_2 and ONO gate dielec., time-depend. dielec. breakdown. *Chi-Hung Lin*, + , *T-ED Jul 95* 1329-1332

X-ray image sensors

MOS imager for soft X-ray imaging. *Takayanagi, I.*, + , *T-ED Aug 95* 1425-1432

Z

Zinc materials/devices

ZnS:Mn ACTFEL display, insulator-semicond. interface, electron ejection. *Bhaskaran, S.*, + , *T-ED Oct 95* 1756-1762